INDEX

	AGE
Abrasives ·	604
Abrasives, Artificial Aluminous	609
Abrasives, Definition of	604
Abrasives, Discussion of	617
Abrasives, Types of	
Accidents, Decrease in, at Commonwealth Steel Co.'s Plant	97
Acid Steel, Discussion of General Melting Characteristics of	
Acid Steel for Castings, General Melting Characteristics of	505
Additions, Final, in Open-Hearth Practice	527
Air Furnace Brick	646
Analysis of Foundry Cost	296
Alexander, Magnus W., Address Entitled "Safety in Foundry	
Operations"	57
Aluminous Abrasives, Artificial	609
Aluminum in Iron	370
Alundum, Efficiency of	
Annealing and Heat-Treating Steel Castings	582
Annealing Furnace Brick	647
Annealing Process for Malleable Castings, Researches in the	460
Annealing Process for Malleable Iron	454
Annealing Malleable Iron, Packing for	455
Annealing of White Iron	468
Annealing Temperature for Malleable Castings	463
Annual Address by the President, Alfred E. Howell	43
Annual Banquet	8
Annual Conventions of the American Foundrymen's Association	32
Annual Report of Secretary-Treasurer	27
Annual Report of the Executive Committee	33
Anthes, L. L., Industrial Pioneering, or the Location of a	
Foundry in a New Territory	323
Appointment of Secretary-Treasurer	42
Approved Metal Danger Sign	61
Attendance, Registered	16
Auditing Committee	2
Backert, A. O., Estimating the Selling Price of Castings	
Banquet Address by Dr. James H. Kirkland	
D	

INDEX

	AGE
Abrasives ·	604
Abrasives, Artificial Aluminous	609
Abrasives, Definition of	604
Abrasives, Discussion of	617
Abrasives, Types of	
Accidents, Decrease in, at Commonwealth Steel Co.'s Plant	97
Acid Steel, Discussion of General Melting Characteristics of	
Acid Steel for Castings, General Melting Characteristics of	505
Additions, Final, in Open-Hearth Practice	527
Air Furnace Brick	646
Analysis of Foundry Cost	296
Alexander, Magnus W., Address Entitled "Safety in Foundry	
Operations"	57
Aluminous Abrasives, Artificial	609
Aluminum in Iron	370
Alundum, Efficiency of	
Annealing and Heat-Treating Steel Castings	582
Annealing Furnace Brick	647
Annealing Process for Malleable Castings, Researches in the	460
Annealing Process for Malleable Iron	454
Annealing Malleable Iron, Packing for	455
Annealing of White Iron	468
Annealing Temperature for Malleable Castings	463
Annual Address by the President, Alfred E. Howell	43
Annual Banquet	8
Annual Conventions of the American Foundrymen's Association	32
Annual Report of Secretary-Treasurer	27
Annual Report of the Executive Committee	33
Anthes, L. L., Industrial Pioneering, or the Location of a	
Foundry in a New Territory	323
Appointment of Secretary-Treasurer	42
Approved Metal Danger Sign	61
Attendance, Registered	16
Auditing Committee	2
Backert, A. O., Estimating the Selling Price of Castings	
Banquet Address by Dr. James H. Kirkland	
D	

	AGE
Bench Molding, Elimination of Waste Motion in	311
Bench Molding, Modern Type of	313
Blackwood, A. F. S., General Melting Characteristics of Acid	
Steel for Castings	503
Blackwood, Peter F., Iron and Its Properties	358
Blow-Holes in Steel Castings	
Board, Observation for Time Study	
Board, Planning, Detail of One Type of	
Bonus Chart	
Bonus Charts, Standard Differential234,	
Bonus, Differential, Parkhurst	
Bond, Clay, Value of	
Bond in Grinding Wheels	
Boyden, Seth	
Brackets for Steel Castings	567
Brandon, G. R., A New Design of Foundry Cupola	
Brass Furnace Heat Equivalent Table	
Brass Furnace Brick.	
Brass Industry, Sanitation and Safety First Applied to	
Burns, Foot	
By-Laws, Revision of	
Brick, Bauxite	
Brick, Burned, Analysis of	
Brick, Chrome	641
Brick for Air Furnace	
Brick for Annealing Furnace	
Brick for Brass Furnace	
Brick for Converters	
Brick for Cupolas	049
Deich for Mellockle Formace	049
Brick for Malleable Furnaces	050
Brick, Nozzle, Standardization of	594
Brick, Physical Structure of	645
Cabinet, First Aid, in Wash Room	
Cabinet, First Aid, in Wash Room	89
Calculating Mixtures for Malleable Cast Iron	
Campbell, William, Annealing and Heat-Treating Steel Castings	
Carbide of Silicon, Efficiency of	
Carbon and Silicon. Effect of Varying in Malleable Iron Mix-	
tures	
Carbon, Determination of, in Iron	
Carbon in Malleable Iron	415

, P	AGE
Cards, Instruction	319
Cast Iron, a, with Unusual Structure	335
Cast Iron, a, with Unusual Structure, Discussion of	353
Cast Iron Pipe, International Proposed, Specifications for	383
Cast Iron Test Bar, Proposals for International Export Specifi-	
cations	
Cast Iron, Shrinkage of	340
Cast Iron, Standard Specifications for, for International Export	
Use	376
Castings, Acid Steel for, General Melting Characteristics of	505
Castings, Estimating the Selling Price of	
Castings, High Grade, a New Material for	393
Castings, High Grade, Discussion of a New Material for	405
Castings, Grinding	615
Castings, Various Classes of, Grinding Wheels for	638
Characteristics of Malleable Iron	451
Charcoal Iron, Sulphur in	
Charcoal Iron, Tests of Standard and Oxygenized	
Chart, Bonus	
Chart Showing Growth in Membership of the American Foun-	
drymen's Association	
Chills, Use of in Steel Castings	
Chrome Brick	
Clay Bond, Value of	
Cleaning Costs	
Clearing House of Safety Helps	
Clerk, Order of Work	282
Clerk Schedule Instructions	
Commerce and Industry, Some By-Products of	
Committee, Auditing	
Committee, Inspection	206
Committee on CostsV	200
Committee on Industrial EducationV	TII
Committee on International Foundrymen's Meeting	VII
Committee on Papers	TIT
Committee on Safety and Sanitation	
Committee on Specifications for Foundry Scrap	
Committee on Specifications for Gray Iron Castings	
Committee on Specifications for Malleable Castings	VII
Committee on Specifications for Steel Castings	
Committee Report on Steel Foundry Standards	
Committee on Steel Foundry Standards	VII
Committee on the Revision of the Constitution and By-Laws	2
Committees Standing VII and V	TIT

PAG	E
Commonwealth Steel Co.'s Decrease in Accidents 9	7
Comparison of Production and Direct Labor Cost, Table of 26	0
Comprehensive Safety Committee System 8	90
Conference, Joint, of Officers of Allied Foundrymen's Associa-	
tions, Minutes of	8
Congress, Fifth Annual Conservation, Report on 74	14
Continuation Schools	
Contraction and Shrinkage, Differences Between	3
Control of Plant and Equipment	2
Controllers, Electric, Selection of, for the Foundry	3
Constitution and By-Laws	
	2
Conventions, Annual, of the American Foundrymen's Associa-	_
tion 3	12
Converter, Brass	
Converter Brick	
Converter Practice, Improvements of Cupola Melting on 51	
Converter, Removable Top	
Converter, Stock Oil-Fired	
Converter, Tropenas	
Converter, Tuyeres in	
Converters, Drop Bottom	
Converters, Output of	
Converters, Side-Blow, Discussion of Ganister Lining in 50	
Converters, Side-Blow, Ganister Lining in	
Cooling of Malleable Iron	7
Cooling Steel Castings	8
Co-Operation, Value of 4	3
Copper in Iron	
Copper, Use of, in Iron	4
Cores, Green Sand	
Cores, Green Sand for Brass Work	4
Cores, Green Sand, Sand for	4
Corporation Schools	2
Corundum 60	6
Cost Accounting, Introduction to	2
Costs, Cleaning 30	4
Costs, Committee onVII	I
Cost of Manufacture, Increasing of	5
Costs, Shall a Manufacturer Figure Before Fixing His Selling	
Price 13	1
Course of Training for Foundry Leaders at Wentworth Institute 73	8
Cracks in Steel Castings 56	4
Critical Points of Iron	2
Crucibles, American 500	8

Pag	
Crucible Steel Manufacture 50	6
Cupola Brick 64	9
Cupola Dump, Coke Recovered from	6
Cupola, Foundry, a New Design of	6
Cupola, Foundry Design of a New, Discussion of	1
Cupola Melting, Improvements of, in Converter Practice 51	
Cupota Mattheway	
Daily Schedule and Shop Tally	'n
Danger Signs, Approved	0
Defects in Malleable Test Bars	6
Defects in Steel Castings and the Remedies for Them	7
Departmental Symbols Adapted for the Foundry	Q
Dewey Decimal System	
Diagram, the Iron-Carbon	
Diagram, the Iron-Carbon	J
Dietz, Carl Frederick, Selection of Grinding Wheels for the	0
Foundry 62 Directions, First Aid 7	1
Discussion of a Cast Iron with Unusual Structure	
Discussion of a Cast from with Chusual Structure	
Discussion of a New Material for Fight Grade Castings	1
Discussion of Abrasives	
Discussion of Electric Furnace	
Discussion of Defects in Steel Castings	
Discussion of Ganister Lining in Side-Blow Converters 50	
Discussion of Industrial Education	
Discussion of Industrial Pioneering	
Discussion of International Specifications	
Discussion of General Melting Characteristics of Acid Steel 53	
Discussion of Malleable Practice	
Discussion of Safety in Connection with Grinding Wheels 11	
Discussion of Scientific Management	7
Discussion of Steel Foundry Standards, Committee Report 60	
Discussion of Selection of Grinding Wheels	9
Ductility and Strength of Malleable Cast Iron After Removing	
the Skin 44	0
AND ADDRESS OF THE PROPERTY OF	
Economics of Electric Motor Drive	
Education, Industrial, Committee onVII	
Education, Industrial, Report of Committee on	
Effect of Varying Silicon and Carbon in Malleable Iron Mixtures 43	7

	AGE
Efficiency of Electric Furnace	487
Electric Drive, Advantages of	
Electric Furnace	
Electric Furnace Brick	
Electric Furnace, Efficiency of	
Electric Furnace, Electrodes for	
Electric Furnace in the Foundry	
Electric Furnace, Operation of	
Electric Motor Drive, Economics of	
Electric Motor, Field for, in the Foundry	
Electric Motors, Selection of, for the Foundry	
Electric Steel Castings, Cost of Manufacture	
Electric Steel, Tensile Strength of	
Electric Steels, Strength of	
Electro-Bessemer Furnace	532
Electrodes for Electric Furnace	489
Elimination of Waste Motion in Bench Molding	311
Emblem, Committee onV	III
Emerson, Harrington, Introduction to Cost Accounting for Re-	
vision of American Foundrymen's Association Standard Cost	
System	292
Emery, Use of as Abrasive	
Entertainment Features	8
	145
Estimating the Selling Price of Castings, Formulas for146,	
Evils Embodied in Specialization	
	360
Executive Committee, Annual Report of	
Executive Committee Meeting, April 4, 1914, Minutes of	42
Executive Committee Meeting, Jan. 17, 1914, Minutes of	35
Executive Committee, Members of	
Expense, Overhead	
Expense, Overhead	303
Fellowship and Not Welfare Work	99
Fillets for Steel Castings	-
Final Additions in Open-Hearth Practice	527
First Aid Cabinet in Wash Room	89
First Aid Directions	74
First Aid Jar, Standard, and Contents72,	73
First Aid Room, Illustration of	92

Fittings, Cast Iron, Proposed International Specifications for.... 383

Index

753

Page
Floor Space, Foundry, per Ton of Output
Fluid Pressure, Illustrations of Law 540
Foreman, The Time Study 199
Form for Time Study
Formula for Estimating the Selling Price of Castings146, 146
Foot Burns 65
Foundry Cost Analysis
Foundry Floor Space per Ton of Output
Foundry Leaders, Training for, at Wentworth Institute 723
Foundry Legging 68
Foundry Operations, Safety in
Foundry, Specialization in the
Foundry, the Location of in a New Territory 32.
Foundry, the Two-Story
Foundry, Two-Story, General Construction
Functions of Planning Room
Furnace, Electric 52
Furnace, Electro-Bessemer 53
Furnace, Electric, Discussion of
Furnace, Electric, in the Foundry
Furnace, Electric, Operation of

Ganister Lining in Side-Blow Converters	500
Garnet	608
Gates, Location of on Steel Castings	543
Gates, Proportioning for Steel Castings	548
Gates, Use of, at Several Levels in Steel Castings	550
General Instructions to Time Study Men	230
General Melting Characteristics of Acid Steel for Castings	505
Germany's Experience with Intoxicants	126
Goggles, Safety	64
	518
Goldmerstein Process for the Elimination of Phosphorus and Sul-	
phur in Converter Practice	
Grade of Grinding Wheels, Factors Affecting	
Gray Iron Castings, Specifications for, Committee on	
Green Sand Cores	
Gregg, A. W., Notes on Safety Organization	
Gregson, John, Ganister Lining in Side-Blow Converters	
Grinding Castings	615

	Pag	
Grinding	Wheels, Bond of	9
	Wheels, Bond in	
Grinding	Wheels, Discussion of	19
Grinding	Wheels, Discussion of Safety in Connection with 13	3
	Wheels for Various Classes of Work	
Grinding	Wheels, Grade of, Factor Affecting	21
-	Wheels, Safety in Connection with	
	Wheels, Selection of, for the Foundry	
	Wheels, Speed of	
Grinding	Wheels, Tests of Safety Hoods for	11
	Wheel Wear Curves	
Gilliang	THE THE CHIPCH C	,,,
	·	
Hall, Joh	hn Howe, Defects in Steel Castings and the Remedies	
for T	Them 5.	37
Hardness	s Scale, Mohs' 6	10
Hawke,	Clarence, Abrasives)4
Heat Car	rd for Malleable Mixtures 4.	20
Heat, Re	easons for Evolution of	60
Heat-Tre	eating Steel Castings 5	82
	ay, Harrold, Calculating Mixtures for Malleable Cast	
Iron	4	13
	G. K., the Two-Story Foundry 6	
	Alfred E., Annual Address of	-
		10
Imperfect	tions, Surface, of Steel Castings 5	71
	1 Education, Discussion of	
	1 Pioneering, Discussion of	
	l Pioneering, or the Location of a Foundry in a New	
	itory	23
	n Committee	
	on Cards	
	ons, Time Study in Detail	
	ional Foundrymen's Meeting, Committee onV	
	onal Specifications, Discussion of	
**************************************	ona openications, Discussion of	zU

	PAGE
Intoxicants, Germany's Experience With	
Iron, Aluminum in	
Iron and Its Properties	
Iron—Carbon Diagram	
Iron, Copper in	
Iron, Critical Points of	
Iron, How It Solidifies	
Iron, Influence of Sulphur on	
Iron, Manganese in	
Iron, Phosphorus in	
Iron, Use of Copper in	
Iron, White, Annealing	408
Jar, Standard, First Aid and Contents	72, 73
Johnson, E. A., Training for Foundry Leaders at Wentworth In	
tute	
Johnson, J. E., Jr., A New Material for High Grade Castings	
Johnson, J. L., Jr., A New Material for High Grade Castings	373
Keep, W. J., Coke Recovered from the Cupola Dump	706
Kelley, Walter H., Refractories-Their Selection and Use in	the
Foundry	641
Kennedy, R. E., Elimination of Waste Motion in Bench Molding	311
Kent, G. F., Notes on Safety Organization	77
Kirkland, Dr. James H., Banquet Address	48
Kreuzpointner, Paul, Report of Committee on Industrial Ed	uca-
tion	710
Kreuzpointner, Paul, Report on Fifth Annual Conservation (on-
gress	744
- the state of the	
I O II d Di	F24
Layout of Open-Hearth Plant	
Legging, Foundry	
Libby, S. H., Selection of Electric Motors and Controllers for	
Foundry	
Lucas, Samuel	451

P	AGE
Malleable, Annealing Process, Reaction in	469
Malleable Cast Iron, Strength and Ductility of, After Removing	
the Skin	440
Malleable Castings, Annealing Temperature for	
Malleable Castings, Discussion of Specifications for	458
Malleable Castings, Researches in the Annealing Process for	
Malleable Castings, Specifications for, Committee on	
Malleable Furnace Brick	
Malleable Iron, Annealing Process for	
Malleable Iron, Carbon in	
Malleable Iron, Cooling of	
Malleable Iron, How Silicon Can Be Increased in	
Malleable Iron—Its Manufacture, Characteristics and Uses	
Malleable Iron, Manganese in	
Malleable Iron, Melting of	
Malleable Iron, Melting Temperature.	
Malleable Iron Mixtures, Effect of Varying Silicon and Carbon in	
Malleable Iron, Phosphorus in	
Malleable Iron, Silicon in	
Malleable Iron, Sulphur in	
Malleable Iron, Tensile Strength of	455
Malleable Iron Test Wedges	
Malleable Practice, Discussion of	476
Malleable Mixtures, a Heat Card for	420
Management, Scientific, in the Foundry	157
Manganese in Iron	370
Manganese in Malleable Iron	465
Manganese Sesquifluoride, Use of in Converter Practice	
Manganese Steel	517
Manufacture of Malleable Iron	
Mason, J. K., Foundry Cost Analysis	
Material and Operations, Control of	169
Melting, Cupola, Improvements of, in Converter Practice	
Melting of Malleable Iron	
Melting Temperature of Malleable Iron	480
Members of Executive Committee	VI
Membership of the American Foundrymen's Association Annually	
Since 1896	-
Memorandum on the Preparation of Standard Specifications for Cast	
Iron for International Export Use	376
Milk, Use of, Instead of Intoxicants	127

PA	GE
Minutes of Executive Committee Meeting, April 4, 1914	42
	35
Minutes of Joint Conference of Officers of Allied Foundrymen's As-	
	38
Minutes of Joint Foundry Convention Program Committee, Jan. 17,	
	40
	13
Mixtures, Malleable Iron, Effect of Varying Silicon and Carbon in. 4	
Mnemonic System	
Moerl, F., Sanitation and Safety First Applied to the Brass Industry	
Mohs' Hardness Scale 6	10
Moldenke, Richard, Memorandum on the Preparation of Standard	
	376
Moldenke, Richard, Molding Sand Tests 6	
Molding Bench, Modern Type of	13
Molding Sand Tests 6	90
Molds for Steel Castings, Method of Venting 5	70
Morey, Arthur T., Progress in the Safety Movement and the Latest	
Aids to Good Safety Work	95
Morrison, W. L., the Electric Furnace in the Foundry 4	
Motion, Waste, Elimination of in Bench Molding	
Multiple-Pouring Steel Castings	
Mulvey, James, Green Sand Cores	
Mulvey, James, Green Sand Cores	13
Necks for Steel Casting Heads 5.	50
New Design of Foundry Cupola	
New Material for High Grade Castings	
Nominating Committee, Members of	
Notes on Safety Organization	
Nozzle Brick, Standardization of	
Nozzle Commonly Used in Steel Foundries	
Nozzle, Round Face, Standard Design for 5	98
Office and Shop Personnel	57
Officers of the American Foundrymen's Association	VI
Open-Hearth Furnace Construction 5	
Open-Hearth Plant, Layout of 5	
Open-Hearth Practice. Final Additions in 5.	
Open-Hearth Steel Practice	27

Inaex	139
	PAGE
Order of Work, Clerk	282
Orders, Analysis and Routing of	164
Organization Record	266
Overhead Expense	305
Oxygen, Effect of, in Pig Iron	398
D 1: (M # 11 T	4==
Packing of Malleable Iron for Annealing	
Papers, Committee on	
Parkhurst, Frederic A., Scientific Management in the Foundry	
Parts, Manufacturing	
Pendelton, J. C., Elimination of Waste Motion in Bench Moldin	
Pero, J. P., Malleable Iron-Its Manufacture, Characteristic	s and
Uses	451
Personnel, Office and Shop	157
Phosphorus, Elimination of in Converter Practice	517
Phosphorus in Iron	
Phosphorus in Malleable Iron	
Pig Iron Proposals of English Members of Committee on In	
tional Export Specifications	
Pig Iron, Proposals for International Specifications for	
Pioneering, Industrial	
Pipes in Steel Castings	
Planning Board, Detail of One Type of	
Planning Board, Illustration of	
Planning Room	
Planning Room, Functions of	
Polishing Wheels Provided with Exhaust Hoods	
Pollard, A. L., Effect of Varying Silicon and Carbon in Ma	
Iron Mixtures	
Price, Selling, Shall a Manufacturer Figure Costs Before	Fix-
ing His	
Production Data, Table and Typical Standard	
Program Committee, Joint Foundry Convention, Minutes of	
ing, Jan. 17, 1914	40
Progress in the Safety Movement and the Latest Aids to	Good
Safety Work	
Descentise of Inco	250

JM

Proposals for International Specifications for cast Iron Pipe and Fittings	383
Proposals for International Export Specifications for the Cast Iron Test Bar	
Proposals for International Export Specifications for Pig Iron	
Quartz	608
Reactions in Annealing Mallcable Process	469
Record of Time Study	
Record, Organization	
Refractories—Their Selection and Use in the Foundry	
Registered Attendance	
Reidenbach, F. W., Safety First	
Remarks on the Strength and Ductility of Cast Iron After the Skin	
Has Been Removed	
Remedies for Defects in Steel Castings	
The state of the s	
Report of Committee on Steel Foundry Standards	
Researches in the Annealing Frocess for Malleable Castings	
Resolution of Thanks, General	
	7
Revision of American Foundrymen's Association Standard Cost	
System	
Revision of Constitution and By-Laws	
Room, First Aid, Illustration of	92
Room, Planning Runners, Proportioning of, for Steel Castings.	
Safe Foundry Shoes	66
Safety and Sanitation, Committee onV	III
Safety Bulletin and Suggestion Box	91
Safety Bulletin at the Pullman Works	
Safety Committee System	
Safety First—Driving Back the Saloon.	
Safety Googles	

	I	AGE
Safety Helps, Clearing House of		100
Safety Hoods for Grinding Wheels, Tests of		111
Safety in Connection with Grinding Wheels		106
Safety in Foundry Operations		57
Safety Organization, Notes on		77
Safety Movement, Progress in, and the Latest Aids to Good	Safety	
Work		95
Safety Work, Good, Latest Aids to		95
Sales Department Development		160
Saloon, Driving Back the		115
Sand-Blasting under a Hood		90
Sand, Coarse		698
Sand, Fine		697
Sand for Green Sand Cores		374
Sand, Medium		698
Sand, Size and Shape of		696
Sand, Permeability, Tests of		
Sanitation and Safety First Applied to the Brass Industry		
Schedule Clerk Instructions.		277
Schedule, Daily		
Schools, Continuation		
Schools, Corporation		
Scientific Management, Discussion of		
Scientific Management in the Foundry		
Scrap, Foundry, Specifications for, Committee on		
Secretary, Annual Report of.		
Secretary-Treasurer, Appointment of		
Selection of Electric Motors for the Foundry		
Selection of Grinding Wheels for the Foundry		
Shall a Manufacturer Figure Costs before Fixing His Selling		131
Shoemaker, Dudley, Report of Committee on Steel Foundry		131
dards		504
Shoes, Safe Foundry		
Shop Tally		
Shrink-Heads, Illustration of, How They Freeze		
Shrinkage and Contraction, Differences Between		453
Shrinkage and Contraction, Differences Between		
Shrinkage of Cast Iron		
Sign, Metal Danger, Approved	******	01
Signs, Approved, Danger	* * * * * * *	651
Silicon and Carbon, Effect of Varying in Malleable Iron Mixt		427
Silicon Carbide		
Silicon in Malleable Iron		
Silicon, Increase of, in Malleable Iron	******	428

PAGE
Sink-Heads on Steel Castings 543
Size and Shape of Grain
Solidification of Iron
Some By-Products of Commerce and Industry 48
Specialization, Evils Embodied in
Specialization in the Foundry
Specifications for Foundry Scrap, Committee on
Specifications for Gray Iron Castings, Committee onVII
Specifications for Malleable Castings, Discussion of
Specifications for Malleable Castings, Committee onVII
Specifications for Steel Castings, Committee onVII
Specifications, International Proposal for Cast Iron Pipe and Fittings 383
Specifications, International Export for Pig Iron
Specifications Proposed for International Cast Iron Test Bar 382
Standing CommitteesVII, VIII
Standard Cost System, Revision of American Foundrymen's Asso-
ciation
Standard Design for Round Face Nozzles 598
Standard Differential Bonus Charts
Standard First Aid Jar and Contents
Standard Specifications for Cast Iron for Export Use 376
Steel Castings, Annealing and Heat-Treating 582
Steel Castings, Blow-Holes in 569
Steel Castings, Brackets for 567
Steel Castings, Cooling 568
Steel Castings, Cracks in
Steel Castings, Defects in, and the Remedies for Them 537
Steel Castings, Discussion of Defects in
Steel Castings, Electric, Cost of Manufacture
Steel Castings, Fillets for
Steel Castings, Location of Gates on
Steel Castings, Location of Sink-Heads
Steel Castings, Multiple-Pouring
Steel Castings, Proportioning Gates for
Steel Castings, Froportioning Runners for
Steel Castings, Specifications for, Committee on
Steel Castings, Surface Imperfections on
Steel Castings, Tie-Bars for
Steel Castings, Use of Chills
Steel Castings, Use of Gates at Several Levels
Steel Castings, Venting Molds for
Steel, Crucible, Manufacture
Steel Foundry Standards Committee on VII

P.	
Steel Foundry Standards, Report of Committee on	594
Steel Foundries, Nozzle Commonly Used in	59
Steel, Manganese	517
Steel Practice, Open-Hearth	
Steels, Production of Special	517
Stephenson, F. J., Shall a Manufacturer Figure Costs Before	
Fixing His Selling Price	131
Stock-Oil-Fired Converter	
Storey, Oliver W., Researches in the Annealing Process for Malleable	
Castings	460
Stratton, H. F., Economics of Electric Motor Drive	
Strength and Ductility of Malleable Cast Iron After Removing the	
Skin	
Strength of Electric Steels	
Strike-Off, Wide, Use of	
Structure, A Cast Iron with Unusual.	
Sulphur, Elimination of in Converter Practice	
Sulphur in Charcoal Iron	
Sulphur in Malleable Iron	
Sulphur, Influence of on Iron.	
Suggestion Box and Safety Bulletin.	
Summary of the Proceedings of the Nineteenth Annual Meeting	
Symbols	
Symbols, Departmental, Adapted for the Foundry	
Symbols, Drawing	
Symbols, Expense, General and Departmental	
Symbols, Filing	
Symbols for Plant Equipment	
Symbols, Jig and Special Detail.	
Symbols, Key to the First Letter of the	
Symbols, Key to the First Letter of the	
Symbols, Operation	
Symbols, Order and Job	
Symbols, Piece	
System, Mnemonic	
System, the Dewey Decimal	173
Table, a Typical Standard and Production Data	224
Table, Brass Furnace Heat Equivalent.	
Table of Production and Direct Labor Cost Comparison.	
Table, Reference, for Scientific Management in The Foundry	
Tar, Use of as Fuel in Open-Hearth Furnace	
Tensile Strength of Electric Steel	404
	150

T.	AGE
Tensile Strength of Malleable Iron	455
Test Bar, Cast Iron, Proposals for International Export Specifica-	400
tions	382
Test Bar, Shrinkage for Steel Castings	565
Test Bars, Malleable, Defects in	446
Test Wedges of Malleable Iron.	
Tests, Molding Sand	
Tests of Standard and Oxygenized Charcoal Iron	401
Tie-Bars for Steel Castings	567
	199
Time Study Form	
Time Study Instructions in Detail.	
Time Study Men, General Instructions to	230
Time Study Observation Board	
Time Study Observation Board	
Time Study, Record of	
Time Study Watch	
Top-Pouring Steel Castings.	544
Touceda, Enrique, Remarks on the Strength and Ductility of Cast	440
Iron After the Skin Has Been Removed	
Treasurer, Annual Report of	
Training for Foundry Leaders at Wentworth Institute	
Tumbler Provided with Belt Guards	
Tuyeres in Converters	
Two-Story Foundry	683
Unusual Structure, A Cast Iron With an	335
Uses of Malleable Iron	451
Value of Co-Operation	43
Venting Molds for Steel Castings	
	0.0
Wages, Molders, Increase in	668
Watch for Time Study	
Wedges, Test, Malleable Iron	448
Wentworth Institute, Course of Training for Foundry Leaders	720
Wentworth Institute, Training for Foundry Leaders at	
West, Thomas D., Evils Embodied in Specialization	
West, Thos. D., Safety First—Driving Back the Saloon	
Wheels, Grinding, Safety in Connection with	
Wheels, Polishing, Provided with Test Exhaust Heads	100
Williams, R. G., Safety in Connection with Grinding Wheels	100
Zimmerschied, K. W., a Cast Iron with Unusual Structure	225
Zimmerschied, N. W., a Cast Iron with Unusual Structure	335

Author's Index

	PAGE
Alexander, Magnus W., Safety in Foundry Operations	57
Anthes, L. L., Industrial Pioneering, or the Location of a Foundry	
in a New Territory	323
Backert, A. O., Estimating the Selling Price of Castings	145
Blackwood, A. F. S., Melting Characteristics of Acid Steel for Cast-	
ings	505
Blackwood, Peter F., Iron and Its Properties	358
Brandon, G. R., A New Design of Foundry Cupola	406
Campbell, William, Annealing and Heat-Treating Steel Castings	582
Dietz, Carl F., Selection of Grinding Wheels for the Foundry	620
Emerson, Harrington, Revision of the American Foundrymen's Asso-	
ciation's Standard Cost System	
Gregg, A. W., Notes on Safety Organization	77
Gregson, John, Ganister Lining in Side-Blow Converters	
oregon, join, danser bining in blue-blow converters	500
Hall, John Howe, Defects in Steel Castings and the Remedies for	
Them	537
Hawke, Clarence, Abrasives	604
Hemenway, Harrold, Calculating Mixtures for Malleable Cast Iron	
Hooper, G. K., The Two-Story Foundry	
Howell, Alfred E., The Value of Co-Operation	43
Johnson, E. A., Training for Foundry Leaders at Wentworth In-	
stitute	727
Johnson, J. E. Jr., A New Material for High Grade Castings	393
Keep, W. J., Coke Recovered from the Cupola Dump	706
Kelley, Walter H., Refractories-Their Selection and Use in the	
Foundry	641
Kennedy, R. E., Elimination of Waste Motion in Bench Molding	311
Kent, G. F., Notes on Safety Organization	77
Kirkland, Dr. James H., Some By-Products of Commerce and	
Industry	48
Kreuzpointner, Paul, Report of Committee on Industrial Education.	710
Kreuzpointner, Paul, Report of Fifth Annual Conservation Congress.	744
Libby, S. H., Selection of Electric Motors and Controllers for the	
Foundry	653

P	AGE
Mason, J. K., Foundry Cost Analysis	296 83
Specifications for Cast Iron for International Export Use Moldenke, Richard, Molding Sand Tests	376 690
Aids to Good Safety Work	95 483 373
Parkhurst, Frederic A., Scientific Management in the Foundry Pendelton, J. C., Elimination of Waste Motion in Bench Molding Pero, J. P., Malleable Iron—Its Manufacture. Characteristics and	
Uses	451 437
Reidenbach, F. W., Safety First	102
Stephenson, F. J., Shall a Manufacturer Figure Costs Before Fixing His Selling Price	131
Standards Storey, Öliver W., Researches in the Annealing Process for Malleable Castings Stratton, H. F., Economics of Electric Motor Drive	460
Touceda, Enrique. Remarks on the Strength and Ductility of Malle- able Cast Iron After the Skin Has Been Removed	
West, Thomas D., Evils Embodied in Specialization	115
Zimmerschied, K. W., A Cast Iron With Unusual Structure	335

